Tuples Solutions

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std::tuple

- What are the main differences between std::pair and std::tuple
  - An std::pair has two members, while an std::tuple can have any number of elements
  - The members of an std::pair are accessed by name, using member syntax, while the elements in an std::tuple are accessed by index, using the templated get() function
- Write down code that defines an std::tuple object using
  - Constructor call
  - make_tuple()

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Accessing tuple members

- Write a program that
  - Prints out the first element of your tuple
  - Modifies an element in your tuple
  - Prints out the value of an element with a given type

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Unpacking a tuple

- What is the purpose of std::tie?
  - std::tie is used to unpack the elements of a tuple into variables
- Write a program that uses std::tie to print out the elements of your tuple

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Returning multiple values

- Why are tuples useful for returning multiple values from functions?
  - Using a tuple for a "throwaway" data structure saves having to define a struct and write the code to populate and unpack it
- Write a simple program with a function that returns a tuple

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